

Claims

1. Fluid injector with a housing (1), a valve body (2) and an actuator unit (3), that is inserted into the housing, with the valve body (2) comprising a cartridge (21) with a recess (211), that takes in a needle (22), a hollow body (23), which is arranged in a fixed position to the needle (22) and forms a first spring rest (231), a valve cap (26), which takes in the cartridge (21) and forms a second spring rest (261), a return spring (25), that rests on one hand on the first spring rest (231) and on the other hand on the second spring rest (231), with the valve cap (26), the housing (1) and the cartridge (21) being formed such, that before the valve cap (26) and the housing (1) and the valve cap (26) and the cartridge (21) are permanently fixed to each other the valve cap (26) is moveable relative to the housing (1) and the cartridge (21) while the housing (1) and the cartridge (21) stay in a fixed position relative to each other.
2. Fluid injector in accordance with claim 1 with the valve cap (26) or the cartridge (21) comprising a first sealing element (27), which seals the connection between the valve cap (26) and the cartridge (21).
3. Fluid injector in accordance with one of the preceding claims with the housing (1) or the valve cap (26) comprising a second sealing element (28), which seals the connection between the housing (1) and the valve cap (26).
4. Fluid injector in accordance with one of the preceding claims with the valve cap (26) comprising a thread (262) and the housing (1) comprising a corresponding thread (12) and the valve cap (26) being threaded into the thread of the housing.

5. Method for manufacturing a fluid injector with a housing (1), a valve body (2) and an actuator unit (3), that is inserted into the housing (1), with the valve body (2) comprising a cartridge (21) with a recess (211), that takes in a needle (22), a hollow body (23), which is arranged in a fixed position to the needle (22) and forms a first spring rest (231), a valve cap (26), which takes in the cartridge (21) and forms a second spring rest (261), a return spring (25), that rests on one hand on the first spring rest (231) and on the other hand, on the second spring rest (261), with the valve cap (26), the housing (1) and the cartridge (21) being formed such, that before the valve cap (26) and the housing (1) and the valve cap (26) and the cartridge (21) are permanently fixed to each other the valve cap (26) is moveable relative to the housing (1) and the cartridge (21) while the housing (1) and the cartridge (21) stay in a fixed position relative to each other,

with the steps of:

- calibrating the fluid flow characteristics of the fluid injector by moving the valve cap (26) and after that
- permanently fixing the valve cap (26) to the housing (1) and to the cartridge (21).